

Appl. No. 10/848,869  
Amdt dated October 25, 2006

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1 (Currently amended): A method of using a plurality of ~~(row-identifier, value)~~ row-identifier and value pairs to update rows in a table of a database, the method comprising:

repeatedly finding, and storing in a structure, a block-identifier of a block that contains a row identified by a row-identifier in at least a group of ~~(row-identifier, value)~~ row-identifier and value pairs, by use of a database index;

performing a ~~vector-read~~ single operation, to store in a buffer cache, a number of blocks, said blocks being identified by block-identifiers in the structure; and

repeatedly updating, in blocks in the buffer cache, each row identified in the group of ~~(row-identifier, value)~~ row-identifier and value pairs, using a corresponding value in the ~~(row-identifier, value)~~ row-identifier and value pairs.

2 (Original): The method of Claim 1 further comprising:

sorting the block identifiers, prior to performing the vector read operation.

3 (Original): The method of Claim 2 wherein:

the sorting is performed subsequent to storage of the block identifiers in the structure.

SILICON VALLEY  
PATENT GROUP LLP  
2350 Mission College Blvd  
Suite 300  
Santa Clara, CA 95054  
(408) 982-8200  
FAX (408) 982-8210

Appl. No. 10/848,869  
Amdt dated October 25, 2006

4 (Original): The method of Claim 1 further comprising:

subsequent to said finding and prior to said storing, checking if the block identifier has a duplicate already stored in the structure and if so then not storing the block identifier in the structure.

5 (Currently amended): The method of Claim 1 further comprising, prior to updating:

repeating said finding of block-identifiers for all row-identifiers in the group of (~~row-identifier, value~~) row-identifier and value pairs.

6 (Original): The method of Claim 1 wherein:

the database index is a hash index and the table is organized in a hash cluster; and during said finding, a single directory is used to obtain the block identifier.

7 (Original): The method of Claim 1 wherein:

the database index is a B-tree index.

8 (Original): The method of Claim 1 wherein:

said structure comprises an array; and

the array has a number of entries identical to the number of blocks that can be held in the buffer cache.

Appl. No. 10/848,869  
Amdt dated October 25, 2006

9 (Currently amended): The method of Claim 1 further comprising:

writing a plurality of logs, at least one log for each row identified in the group of  
(Identifier, value) row-identifier and value pairs.

10 (Original): The method of Claim 9 further comprising:

unpinning each block after updating all rows in said each block; and  
flushing an unpinned block to disk only when another block needs space in the  
buffer cache occupied by the unpinned block.

11 (Original): The method of Claim 1 wherein:

a plurality of file offsets are provided to the vector read operation, one offset for  
each block in the group.

Claim 12 (canceled).

13 (Currently amended): A computer-readable storage medium encoded with  
instructions to perform ~~the method of Claim 1~~ a method comprising:

repeatedly finding, and storing in a structure, a block-identifier of a block that  
contains a row identified by a row-identifier in at least a group of row-identifier and value  
pairs, by use of a database index;

performing a vector read operation, to store in a buffer cache, a number of blocks,  
said blocks being identified by block-identifiers in the structure; and

SILICON VALLEY  
PATENT GROUP LLP  
2350 Mission College Blvd.  
Suite 360  
Santa Clara, CA 95054  
(408) 982-8200  
FAX (408) 982-8210

Appl. No. 10/848,869  
Amdt dated October 25, 2006

repeatedly updating, in blocks in the buffer cache, each row identified in the group of row-identifier and value pairs, using a corresponding value in the row-identifier and value pairs.

14 (Original): The computer-readable storage medium of Claim 13 being further encoded with said structure storing the block identifiers.

15 (Currently amended): A computer comprising a processor and a memory coupled to the processor, the memory being encoded with instructions to:

automatically use a database index to look up a block identifier of a block that contains a row identified by an identifier in a plurality of ~~(identifier, value)~~ identifier and value pairs to be used to update a table in a database;

automatically ~~storing~~ store the block identifier in a structure in memory;

automatically ~~repeating (using the database index to look up and storing the block identifier)~~ repeat instructions to said automatically use and said automatically store, for all identifiers in at least a group of ~~(identifier, value)~~ identifier and value pairs;

automatically ~~performing~~ perform a vector read, to store in a cache, each block in a group of blocks identified by block identifiers stored in said structure, wherein the group of blocks are all stored in the cache during execution of a single function call;

automatically ~~modifying~~ modify a row in a block stored in the cache, using a value in the plurality of ~~(identifier, value)~~ identifier and value pairs; and

automatically ~~repeating said modifying~~ repeat instructions to said automatically modify with each row identified in the group of ~~(identifier, value)~~ identifier and value pairs.

SILICON VALLEY  
PATENT GROUP LLP  
2150 Mission College Blvd  
Suite 300  
Santa Clara, CA 95054  
(408) 982-8200  
FAX (408) 982-8210

Appl. No. 10/848,869  
Amdt dated October 25, 2006

16 (Currently amended): An apparatus for using a plurality of ~~(identifier, value)~~ identifier and value pairs to update a table of a database, each identifier in each pair identifying a row in the table, the apparatus comprising:

means for using a database index to look up a block identifier of a block that contains the row identified by an identifier in the plurality of ~~(identifier, value)~~ identifier and value pairs;

means for storing the block identifier in a structure in memory;

means for repeating (using the database index to look up and storing the block identifier), for all identifiers in at least a group of ~~(identifier, value)~~ identifier and value pairs;

means for performing a vector read, to store in a cache, each block in a group of blocks identified by block identifiers stored in said structure, wherein the group of blocks are all stored in the cache during execution of a single function call;

means for modifying a row in a block stored in the cache, using a value in the plurality of ~~(identifier, value)~~ identifier and value pairs; and

means for repeating said modifying with each row identified in the group of ~~(identifier, value)~~ identifier and value pairs.

17 (Currently amended): A method of using a plurality of ~~(row-identifier, value)~~ row-identifier and value pairs to update a table of a database, each row-identifier in each pair identifying a row in the table, the method comprising:

finding a block-identifier of a block that contains the row identified by a row-identifier in a ~~(row-identifier, value)~~ row-identifier and value pair, by use of a database index;

storing the block-identifier in a structure;

repeating (finding the block-identifier and storing the block-identifier), for all row-identifiers in at least a group of ~~(row-identifier, value)~~ row-identifier and value pairs;

Appl. No. 10/848,869  
Amdt dated October 25, 2006

performing a vector read operation, to store in a buffer cache, each block in a group of blocks identified by block-identifiers stored in said structure, wherein the group of blocks are all stored in the cache during execution of a single function call;

updating the row in the block in the cache, using the value in the (~~row-identifier,~~ value) row-identifier and value pair; and

repeating said updating with each row identified in the group of (~~identifier, value~~) row-identifier and value pairs.

SILICON VALLEY  
PATENT GROUP LLP

1350 Mission College Blvd  
Suite 360  
Santa Clara, CA 95054  
(408) 962-8200  
FAX (408) 962-8210

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**